

***In the Claims:***

1. Cell selection apparatus for use in mobile communications equipment to select a cell from a candidate set of cells to support subsequent communication between a cellular network and the equipment, said apparatus being triggerable, by a transition of the equipment out of an existing connected mode state in which communication is supported by a serving cell or an active set of one or more cells, to select said cell, wherein the apparatus is adapted to use as said candidate set a set of cells comprising at least one cell which is not a cell supporting the existing connected mode state.

2. Cell selection apparatus according to Claim 1 wherein said at least one cell comprises a cell identified to the mobile communications equipment by the network.

3. Cell selection apparatus according to Claim 1 wherein said at least one cell comprises a cell neighbouring a cell supporting the existing connected mode state.

4. Cell selection apparatus according to Claim 1 wherein said at least one cell comprises a cell identified by information stored by the mobile communications equipment.

5. Cell selection apparatus according to Claim 4 wherein said information stored comprises historic cell-related information arising from past behaviour of the mobile communications equipment.

6. Cell selection apparatus according to either one of Claim 4 wherein said information stored concerns power measurement data in relation to said at least one cell.

7. Cell selection apparatus according to Claim 1 comprised by channel configuration apparatus in the mobile communications equipment for configuring a communication channel in the cellular network.

8. Mobile communications equipment comprising cell selection apparatus according to Claim 1.

9. Mobile communications equipment according to Claim 8, further comprising power measurement equipment for taking power measurements with respect to cells of the candidate set of cells, wherein the selection of a cell is based at least in part on said power measurements.

10. Mobile communications equipment according to Claim 8, further comprising an algorithm store for storing at least one selection algorithm for use in assembling a candidate set of cells.

11. Mobile communications equipment according to Claim 8, further comprising parameter adjustment means for adjusting at least one parameter for at least one of the candidate set of cells, thereby changing a probability that said at least one cell will be selected.

12. Mobile communications equipment according to Claim 11, wherein said parameter adjustment means is adapted to select a cell identified to the mobile communications equipment by the network for said adjustment.

13. Mobile communications equipment according to Claim 8, further comprising a data store for storing system information for use in identifying one or more cells neighbouring a cell supporting the existing connected mode state.

14. Mobile communications equipment according to Claim 8, further comprising a data store for storing data relevant to historic cell-related information arising from past behaviour of the mobile communications equipment.

15. Mobile communications equipment according to Claim 8, further comprising a data store for storing cell power measurement data.

16. Mobile communications equipment according to Claim 8, wherein the network comprises a UMTS-based network.

17. Mobile communications equipment according to Claim 8 wherein said transition of the equipment comprises a transition from a state in which it has a dedicated channel to a state in which it is camped on a cell.

5

18. Mobile communications equipment according to Claim 16 wherein said existing connected mode state comprises any one of Cell\_DCH, Cell\_FACH, Cell\_PCH, and URA\_PCH.

10 19. Mobile communications equipment according to Claim 8 wherein said transition of the equipment out of an existing connected mode state comprises a transition to an idle mode.

15 20. Mobile communications equipment according to Claim 16 wherein said transition of the equipment out of an existing connected mode state comprises one of the following transitions:

- a) Cell\_DCH to Cell\_FACH, Cell\_PCH, or URA\_PCH;
- b) Cell\_FACH to Cell\_FACH, Cell\_PCH, or URA\_PCH; and
- c) Cell\_FACH or Cell\_DCH to an idle mode.

20 21. A method of selecting a cell of a cellular network to support subsequent communications between the network and mobile communications equipment on transition of the equipment out of an existing connected mode state in which communication is supported by a serving cell or an active set of one or more cells, which method comprises the steps of:

- i) assembling a candidate list of cells; and
  - 25 ii) selecting a cell from the candidate list,
- wherein step i) comprises identifying for said candidate list at least one cell which is not a cell supporting the existing connected mode state, said at least one cell meeting one or more predetermined criteria.

30 22. A method according to Claim 21 which further comprises the step of receiving an input identifying a transition from the existing connected mode state of the mobile communications equipment.

23. A method according to Claim 21 which further comprises the step of receiving data identifying a network-preferred cell, and wherein the at least one cell comprises said network-preferred cell.

5

24. A method according to Claim 21 which further comprises the step of adjusting a value for at least one parameter of a cell in the candidate list, prior to step ii), so as to change the likelihood of selection of said cell.

10 25. A method according to Claim 23 which further comprises the step of adjusting a value for at least one parameter of a cell in the candidate list, prior to step ii), so as to change the likelihood of selection of said cell and wherein said step of adjusting a value comprises adjusting a value for at least one parameter of the network-preferred cell.

15 26. A method according to Claim 21, further comprising the step of storing system information for use in identifying said at least one cell.

20 27. A method according to Claim 21 which further comprises the step of storing historic cell-related information arising from past behaviour of the mobile communications equipment, for use in identifying said at least one cell.

28. A method according to Claim 21 which further comprises the step of storing cell power measurement data, for use in identifying said at least one cell.

25 29. A method according to Claim 21 wherein step ii) is carried out by reference to power measurements for the cells of the candidate list.

30 30. Cell selection apparatus for use in mobile communications equipment to select a serving cell from a candidate set of cells of a mobile communications network, on transition of the equipment from a state in which it has a dedicated channel to a state in which it is camped on a serving cell in the network,

wherein the apparatus comprises a candidate set assembler for assembling a candidate set of cells for use in selection by the selection apparatus, the set comprising at least one cell from the group comprising:

- a) a cell identified to the mobile communications equipment by the network;
- 5 b) a cell neighbouring a cell of an active set supporting said dedicated channel;
- c) a cell identified by information stored by the mobile communications equipment; and
- d) a cell identified by system information received by the mobile communications equipment.

10 31. Cell selection apparatus for use in mobile communications equipment to select a serving cell from a candidate set of cells, on transition of the equipment from a connected state in which it is camped on a pre-transition serving cell either to a different connected state in which it is camped on a post-transition serving cell or to idle mode,

wherein the apparatus comprises a candidate set assembler for assembling a candidate set of  
15 cells, the set comprising at least one cell from the group comprising:

- a) a cell identified to the mobile communications equipment by the network;
- b) a cell neighbouring said pre-transition serving cell;
- c) a cell identified by information stored by the mobile communications equipment; and
- d) a cell identified by system information received by the mobile communications  
20 equipment.

32. A method of selecting a cell of a cellular network to support subsequent communications between the network and mobile communications equipment on transition of the equipment out of an existing connected mode state, which method comprises the steps of:

- 25 i) assembling a candidate list of cells; and
- ii) selecting a cell from the candidate list,

wherein step i) comprises identifying for said candidate list at least one cell which is not a cell supporting the existing connected mode state, said at least one cell meeting one or more predetermined criteria.

30